

and from  $1\frac{1}{2}$  to 2 inches in diameter. Various fruits of trees and other fragments were abundant, usually floating confined in the midst of the small aggregations into which the floating timber was almost everywhere gathered. Amongst them were the usual littoral seeds, those of two species of *Pandanus*, and of the Puzzle-seed (*Heritiera littoralis*), fruits of a *Barringtonia* and of *Ipomœa pes-capræ*. But besides these fruits of littoral plants, there were seeds of forty or fifty species of more inland plants. Very small seeds were as abundant as large ones, the surface scum being so full of them that they could be scooped up in quantities with a fine net. For a report on the nature of these fruits and seeds see the Report on the Botany.<sup>1</sup> With the seeds occurred one or two flowers, or parts of them. Leaves were absent except those of the palm, on the midribs of which some of the pinnæ were still present. The leaves evidently drop first to the bottom, whilst vegetable drift is floating from a shore; thus, as the débris sinks in the sea water a deposit abounding in leaves, but with few fruits and little or no wood, will be formed near shore, whilst the wood and fruits will sink to the bottom farther off the land. Much of the wood was floating suspended vertically in the water, and most curiously, logs and short branch pieces thus floating, often occurred in separate groups, apart from the horizontally floating timber. The sunken ends of the wood were not weighted by any attached masses of soil or other load of any kind; possibly the water penetrates certain kinds of wood more easily in one direction with regard to its growth than the other, hence one end becomes water-logged before the other.

It is evident that a wide area of the sea off the mouth of the Mamberan River is thus constantly covered with drift wood, for the floating wood is inhabited by various animals, which seem to belong to it as it were. The fruits and wood were covered with the eggs of a Gasteropod Mollusc, and with a Hydroid, and the interstices were filled with Radiolarians washed into them and gathered in masses, just as Diatoms, in the Antarctic Ocean, are gathered together in the honeycombed ice. Two species of crabs inhabit the logs in abundance, and a small Dendrocele Planarian swarms all over the drift matter and on the living crabs also. A *Lepas* was common on the logs. Enormous quantities of small fish swarmed under the drift wood, and troops of Dolphins (*Coryphæna*) and small Sharks (*Carcharias*), 3 or 4 feet long, were seen feeding on them, dashing in amongst the logs, splashing the water, and showing above the surface, as they darted on their prey. The wood which had been longest in the water was bored by a *Pholas*.

A large flock of the very widely spread Phalarope (*Phalaropus hyperboreus*) was seen flying over the drift wood, no doubt following the timber out from shore, and roosting on it. In England this bird is considered as one of the visitors from the far north, so that it seems strange to meet with it at New Guinea, although it was previously known from the Arrou Islands. Some specimens shot had small surface Crustacea in their stomachs. The various smaller animals no doubt congregate about the drift wood because

<sup>1</sup> Bot. Chall. Exp., part iii., 1885.